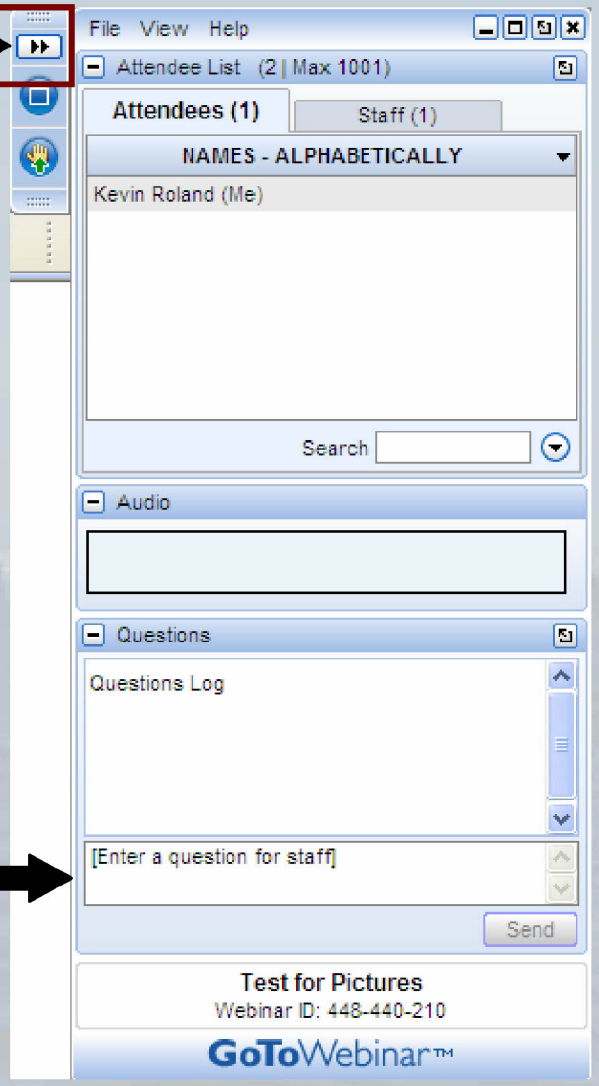
CHESAPEAKE BAY TMDL
Restoring Local Waters and the Chesapeake Bay

Webinar No. 5 in Series

July 8, 2010

- **Click the double arrow to show or hide your control panel**



- **Type your questions here.**

  (Indicate organization)

  Note: Because of the large audience, not all questions will be answered, but they will be saved, and your questions will help drive future events and could contribute to a FAQ.

Technical Issues?

Contact:

- **Citrix Global Customer Support**

  1-800-263-6317

Shawn M. Garvin
Regional Administrator
EPA Region III

Today's Presenters

- **Shawn Garvin,** Regional Administrator, EPA Region III
- **Bob Koroncai**, Chesapeake Bay TMDL Manager, EPA Region 3
- **Rich Batiuk**, Associate Director for Science, EPA Chesapeake Bay Program Office
- **Jennifer Volk**, Watershed Assessment Section, DNREC

AGENDA

- **Opening Remarks-** Shawn Garvin
- **Key Updates**– Bob Koroncai
- **Schedule Ahead, WIPs** – Rich Batiuk
- **Delaware's Watershed Implementation Plan Progress** – Jennifer Volk
- **Questions and Answers**

Deriving the proposed state-basin nutrient allocations

Bob Koroncai, Rich Batiuk

Lewis Linker, Gary Shenk, Jeni Keisman

State-basin allocations

- In letter to states of July 1 from Shawn Garvin
- Establishes draft state-basin loads for development of WIPs

Proposed Jurisdiction/Major Basin Allocations are Based on…

- Anticipated amendments to MD, VA, DE and DC's Chesapeake Bay WQ Standards:
  - Reference EPA's May 2010 Bay criteria addendum (5th published by EPA since 2003): MD, VA, DE, DC
  - Deep-water use designations for the South, Severn and Magothy rivers: MD
  - Site-specific dissolved oxygen criterion for the upper/middle Pocomoke River: MD, VA
  - Restoration variance for the Chester River deep-channel dissolved oxygen criterion: MD

Nitrogen Deposition Air Allocations

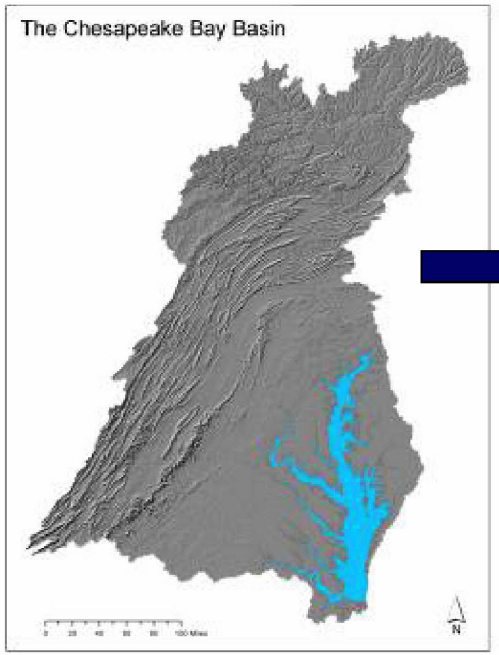
- Based on addressing the federal requirements of the Clean Air Act
- Projected reductions in nitrogen atmospheric deposition loads to Bay watershed are credited to states as a land-based control
- Atmospheric deposition direct to Bay tidal waters is the air allocation
- Air allocation is 15.7 million pounds per year of total nitrogen

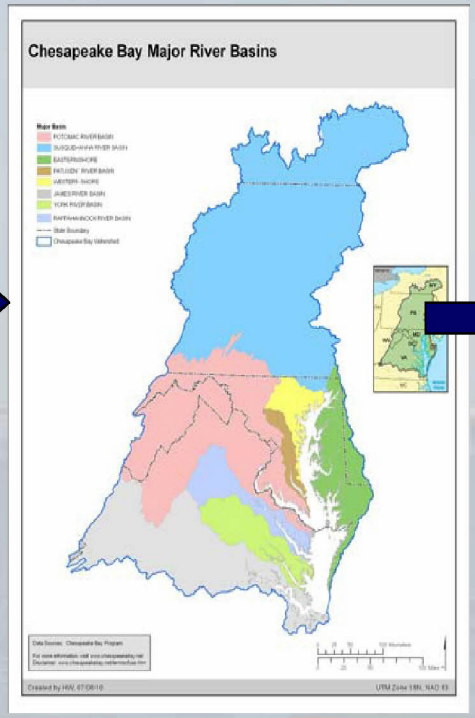
Air Allocation Scenario

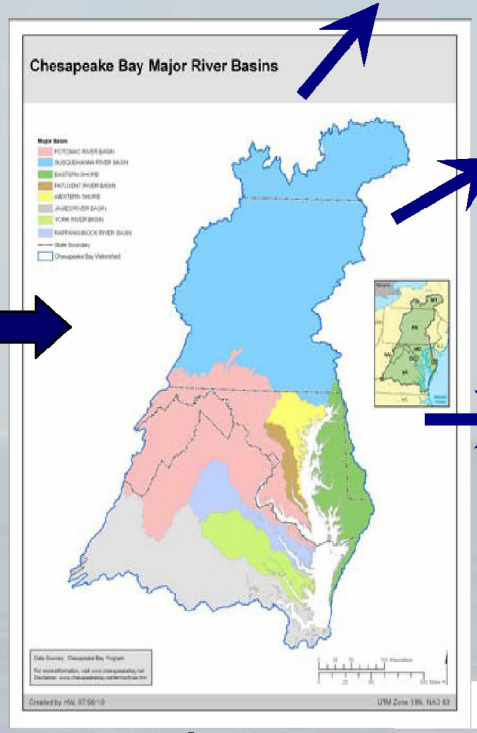
- CAA regulations implemented through 2020 to meet national air quality standards

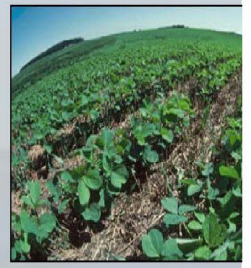
- This 2020 scenario includes the following:
  - On-Road mobile sources: Tier 2 vehicle emissions standards and the Gasoline Sulfur Program
  - On-Road Heavy Duty Diesel Rule – Tier 4
  - Clean Air Non-Road Diesel Rule – Tier 2
  - EGUs: CAIR, Regional Haze, Clean Air Mercury Rule (CAMR) and Best Available Retrofit Technology (BART)
  - Non-EGUs: Hospital/Medical Waste Incinerator Regulations

Reminder: Steps for Establishing the Bay TMDL









Identify basinwide target loads

EPA, States, DC

Identify major basin by jurisdiction target loads

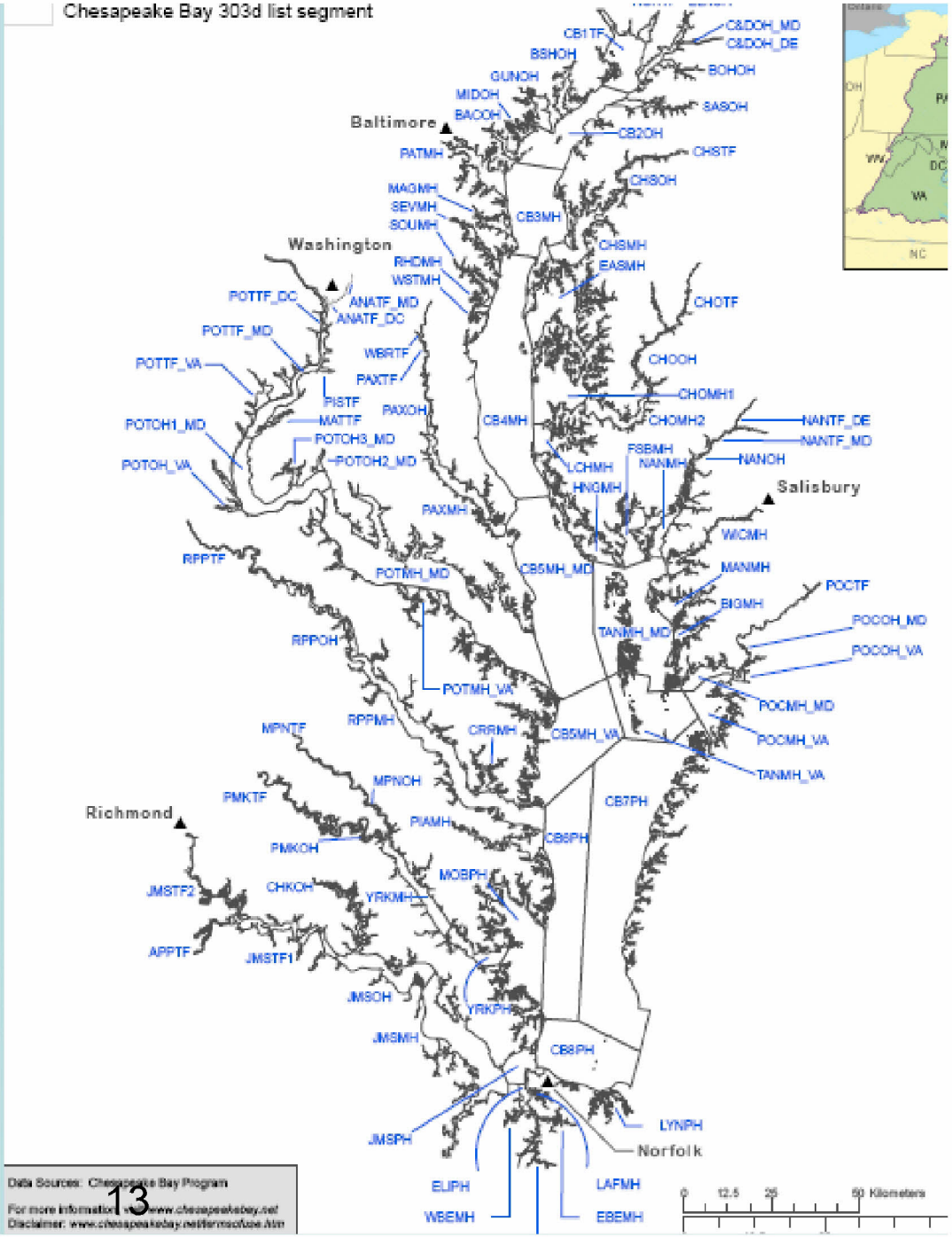
EPA, States, DC

Identify tidal segment watershed (2010), county (2011) and source sector target loads

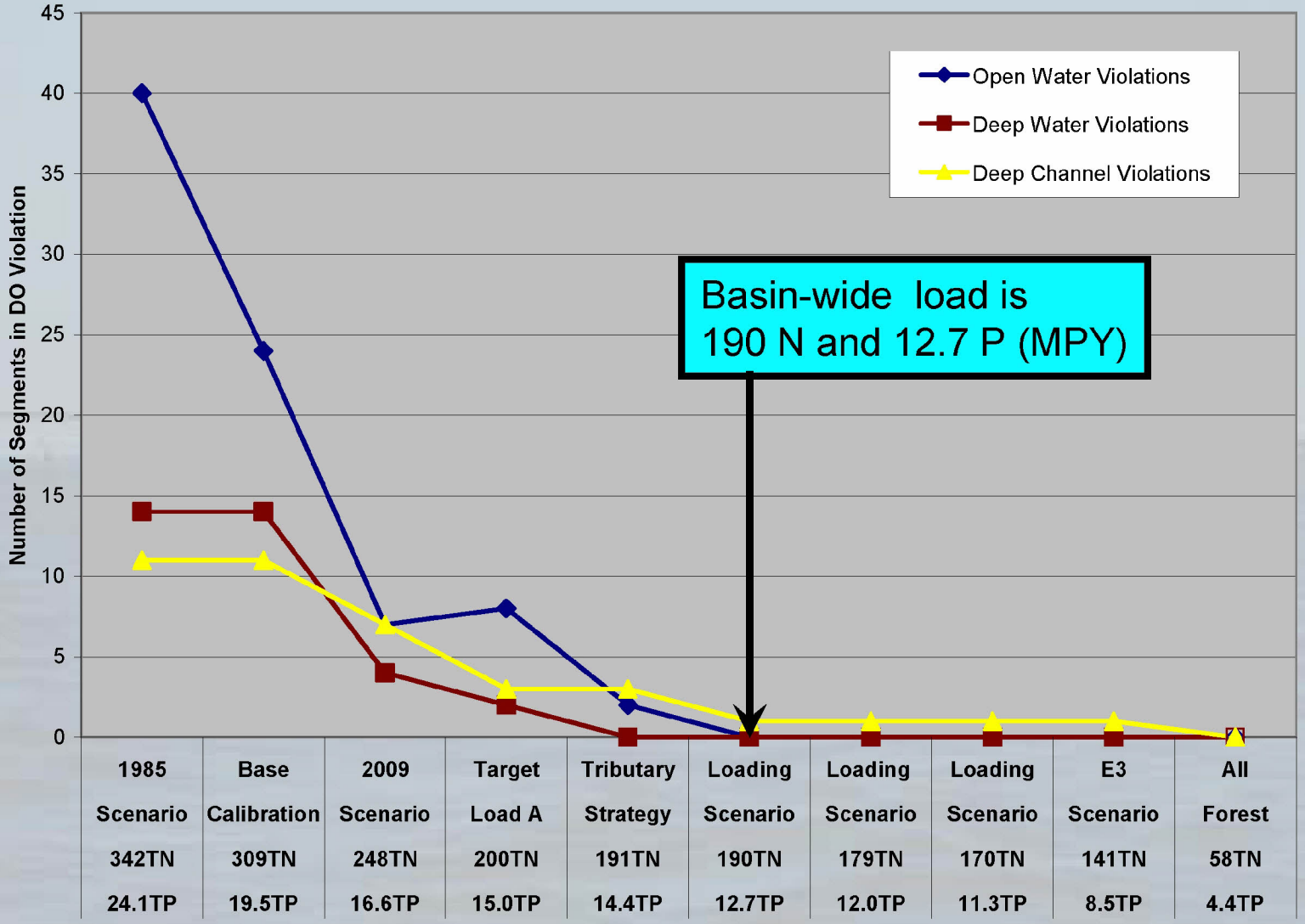
States, DC, local governments & local partners

Step 1:

Set the basin-wide nutrient loads based on attaining dissolved oxygen in the main bay, lower river and major embayment segments (those who's water quality is influenced by loads from multiple jurisdictions)

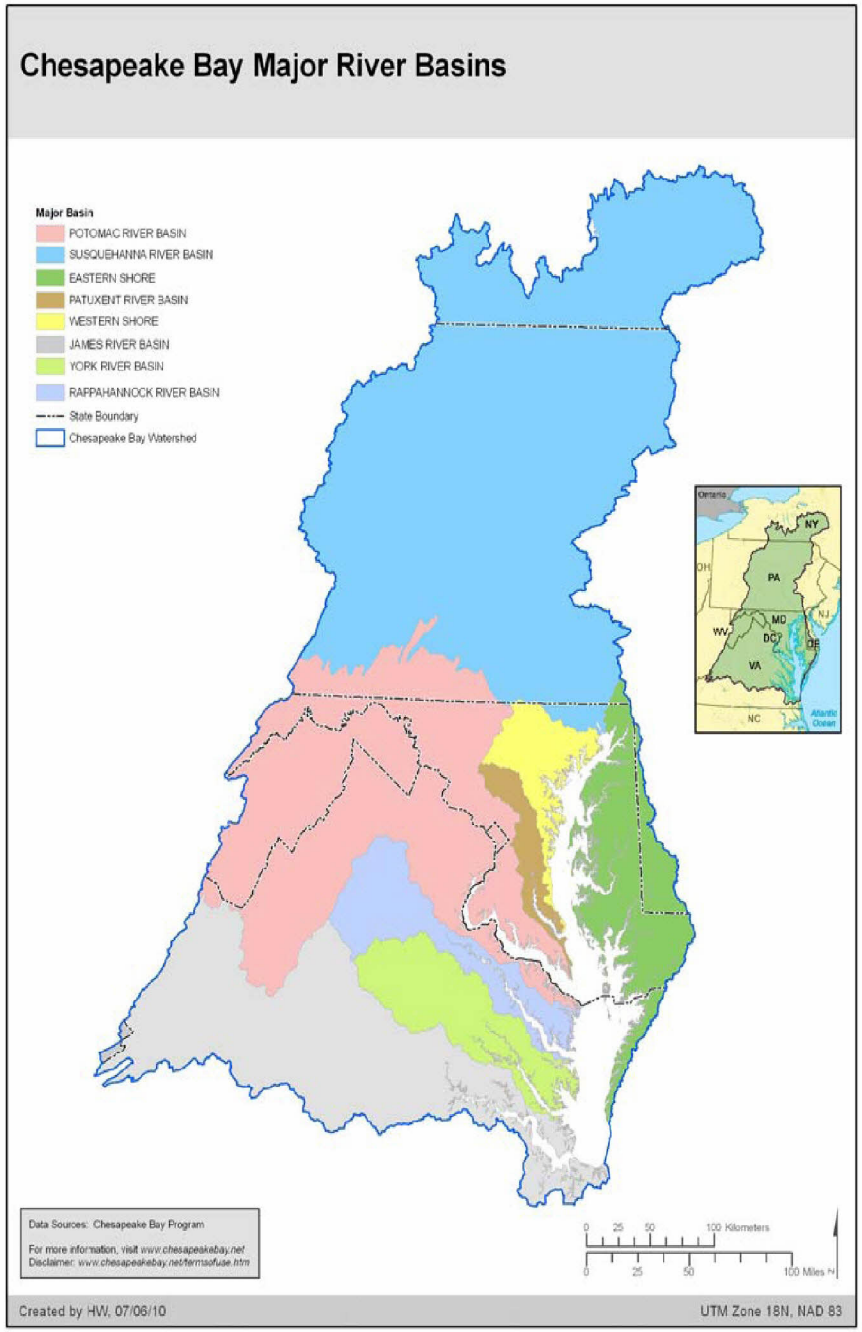


Dissolved Oxygen Criteria Attainment



Step 2:

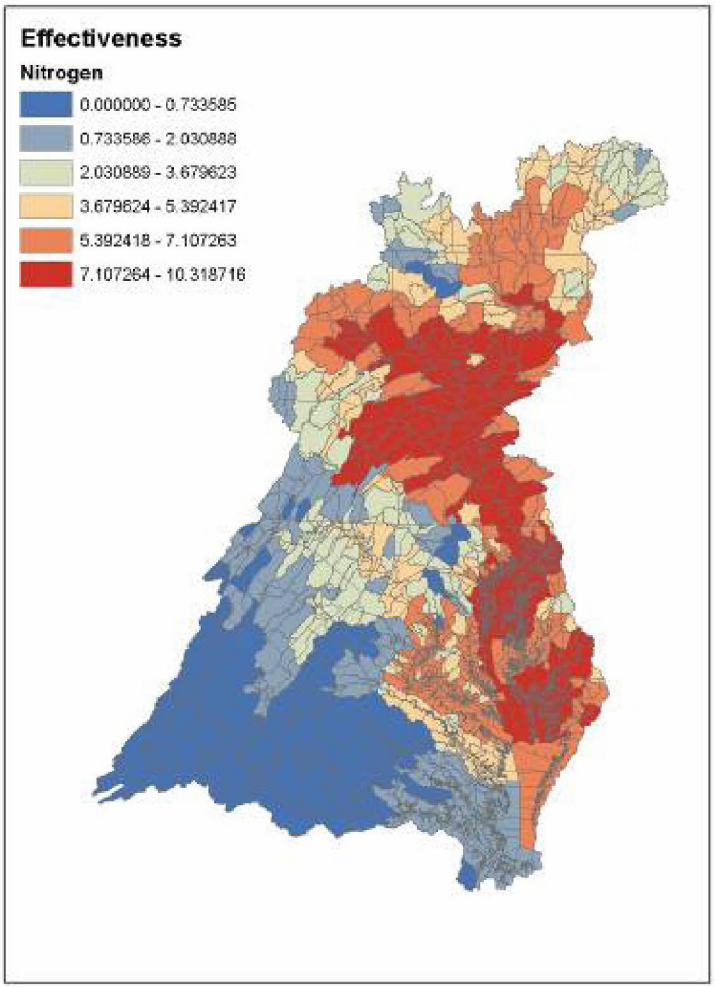
Distribute the basin-wide nutrient loads (based on attaining dissolved oxygen) by jurisdiction and major river basin following the methodology agreed upon by the partnership

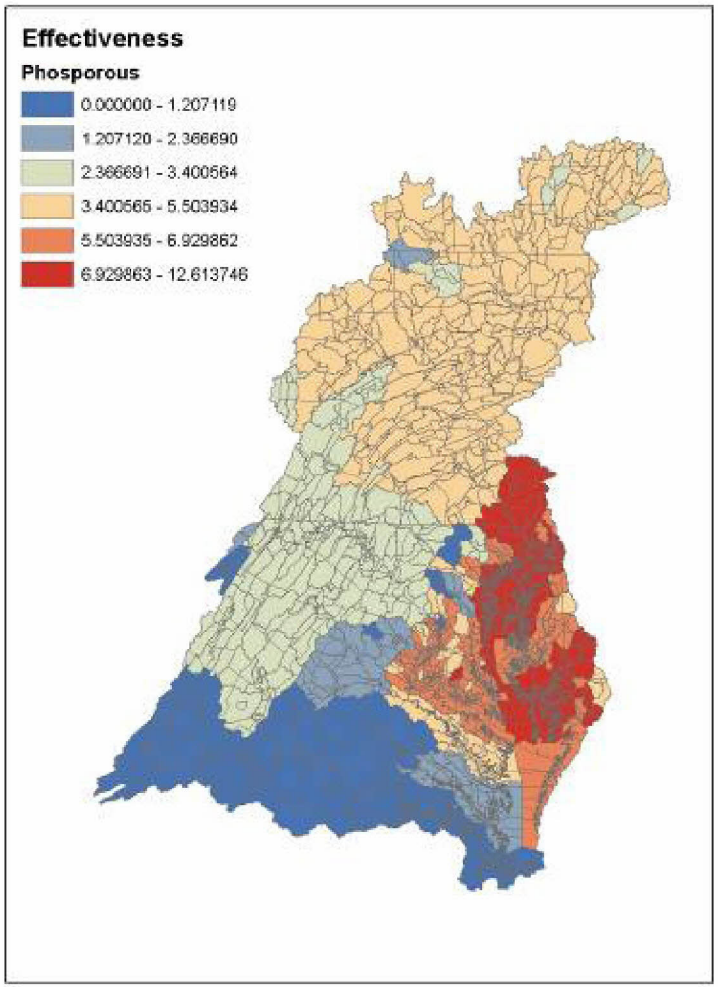


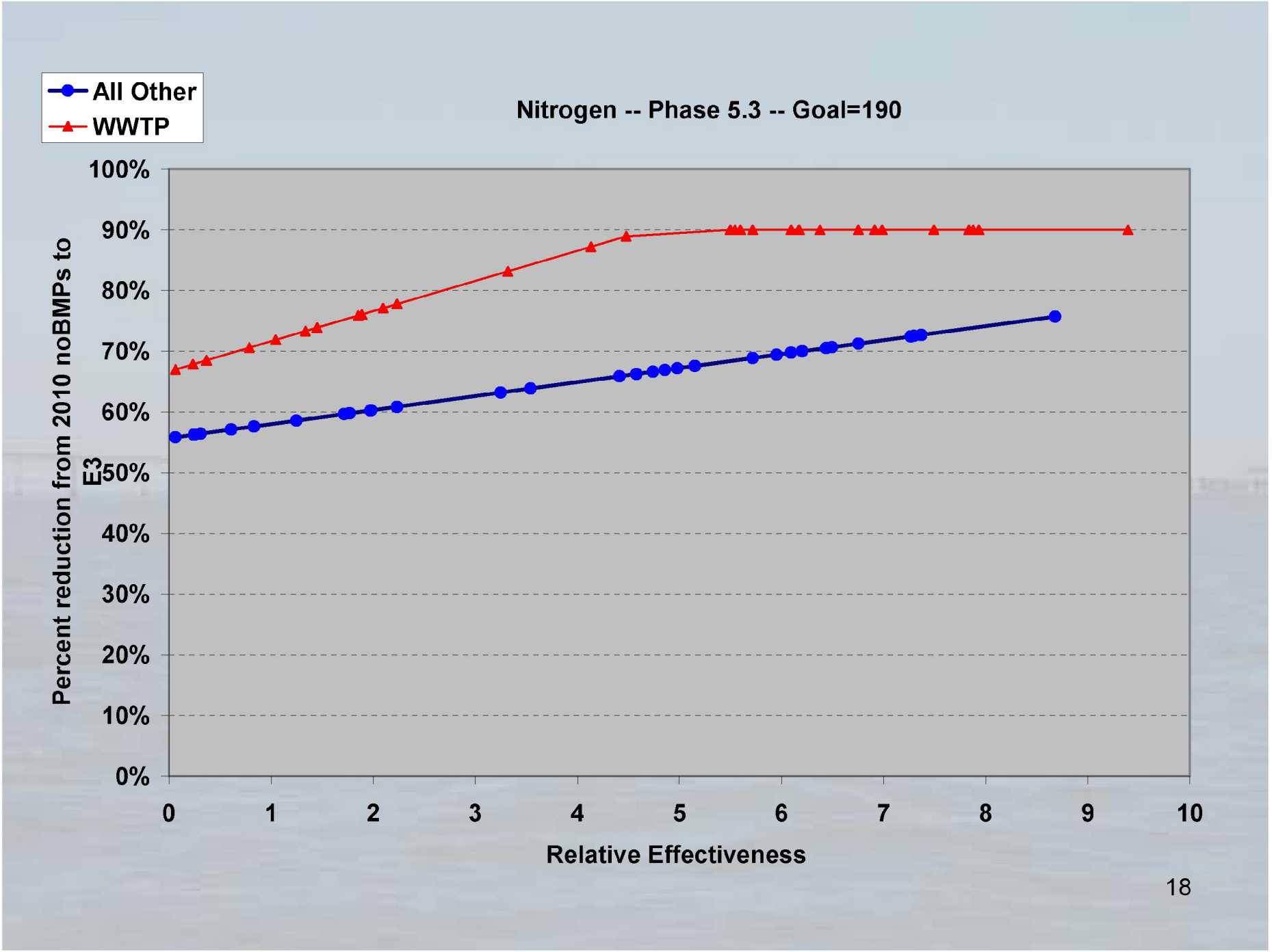
Guidelines for Distributing the Basinwide Target Loads

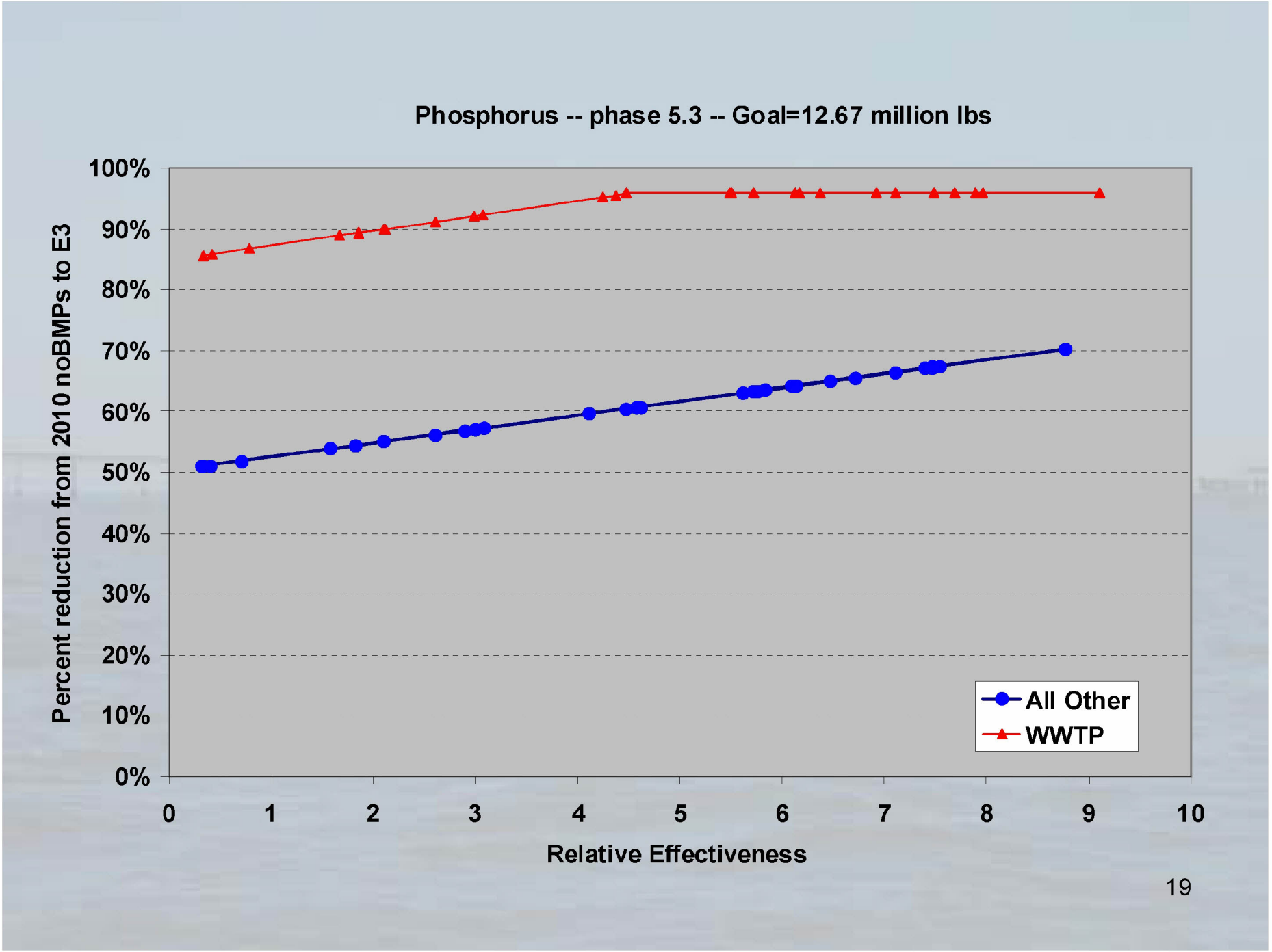
- Water quality and living resource goals should be achieved.
- Waters that contribute the most to the problem should achieve the most reductions.
- All previous reductions in nutrient loads are credited toward achieving final cap loads.

Nutrient Impacts on Bay WQ






All Other
WWTP
Nitrogen -- Phase 5.3 -- Goal=190
Percent reduction from 2010 noBMPs to E3
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0
1
2
3
4
5
6
7
8
9
10
Relative Effectiveness
18

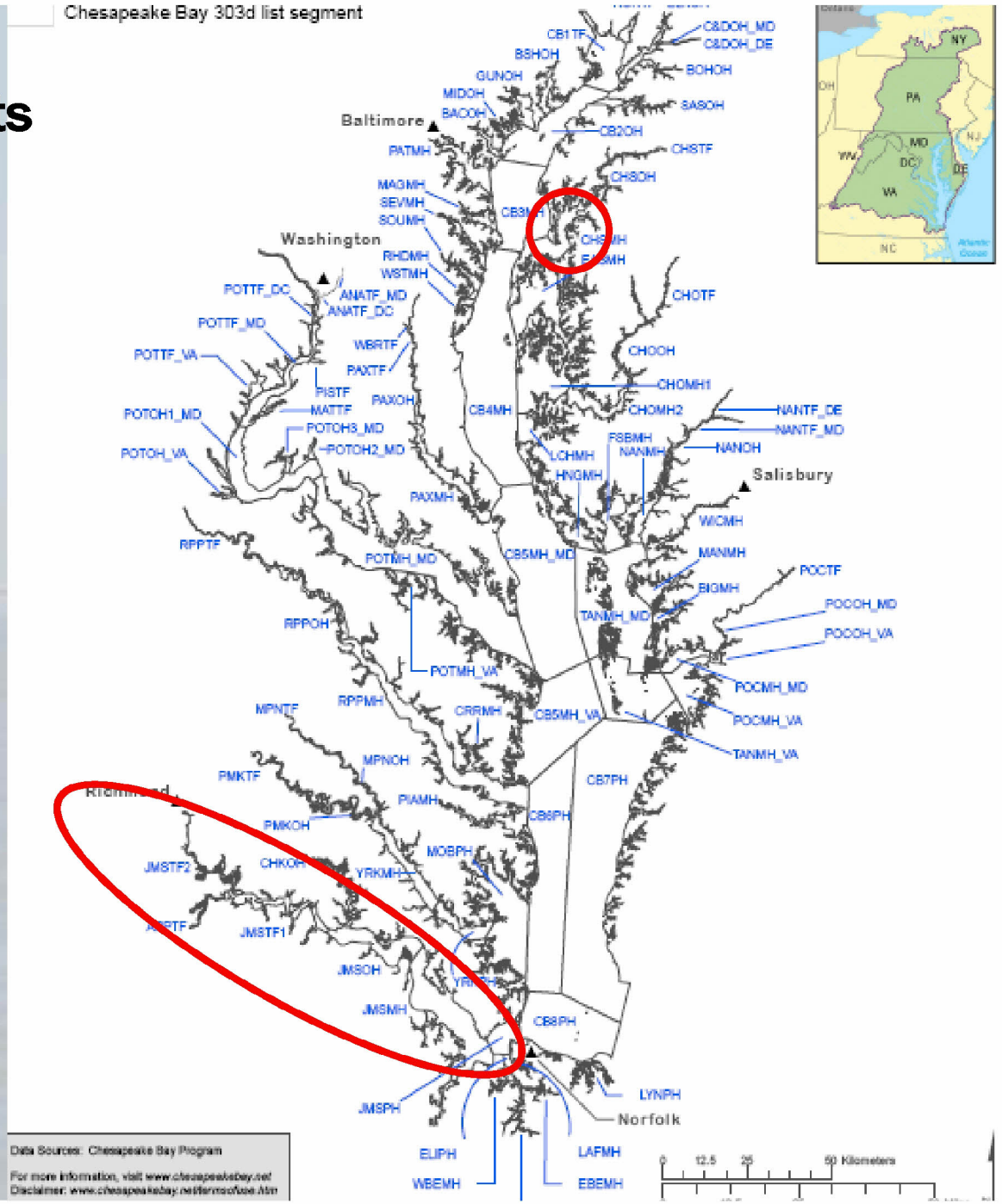

Phosphorus -- phase 5.3 -- Goal=12.67 million lbs
Percent reduction from 2010 noBMPs to E3
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0
1
2
3
4
5
6
7
8
9
10
Relative Effectiveness
All Other
WWTP
19

Step 2 continued:

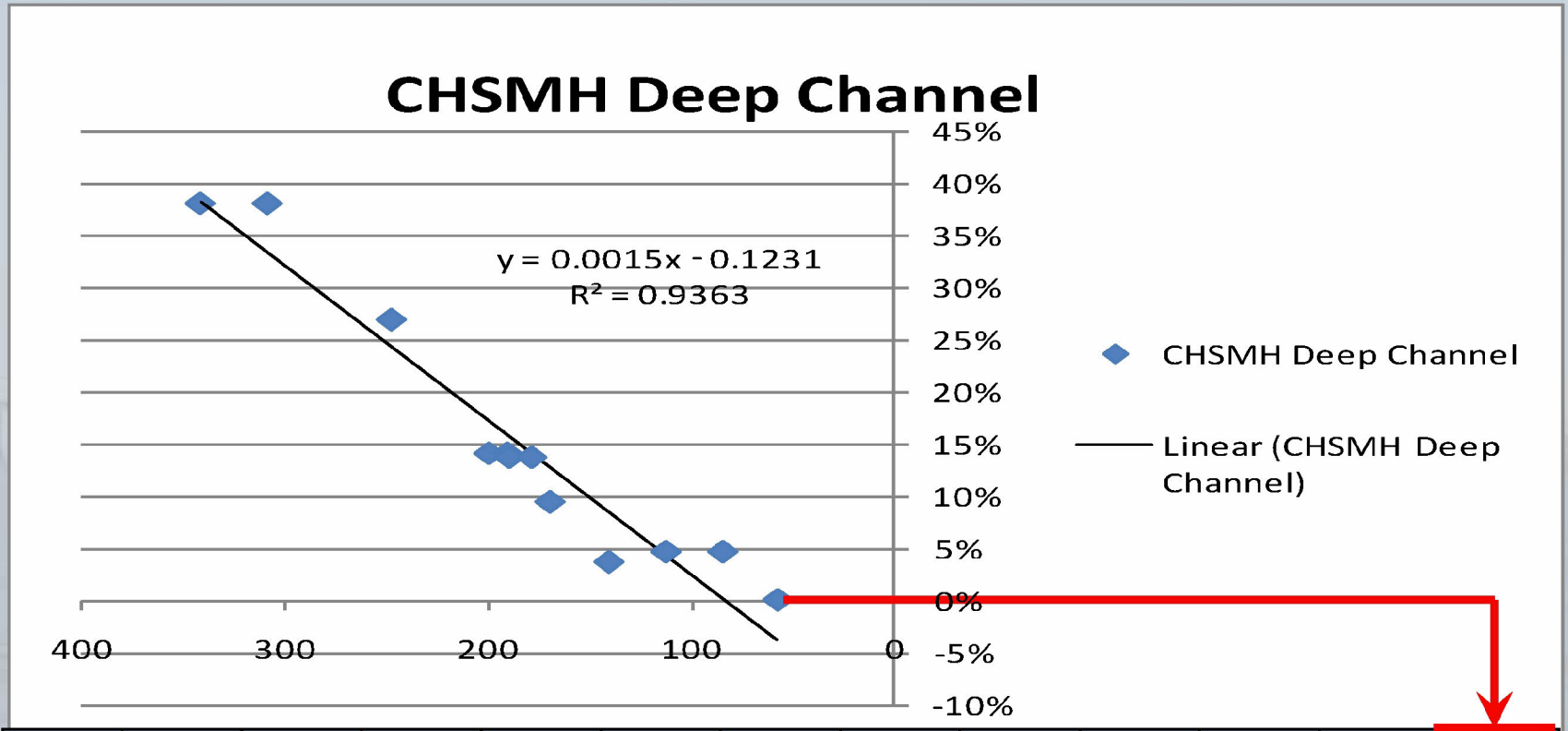
Address tidal segments still not attaining their applicable dissolved oxygen/ chlorophyll *a* criteria at the basin-wide nutrient loads of 190 TN and 12.7 TP

Non-attaining segments

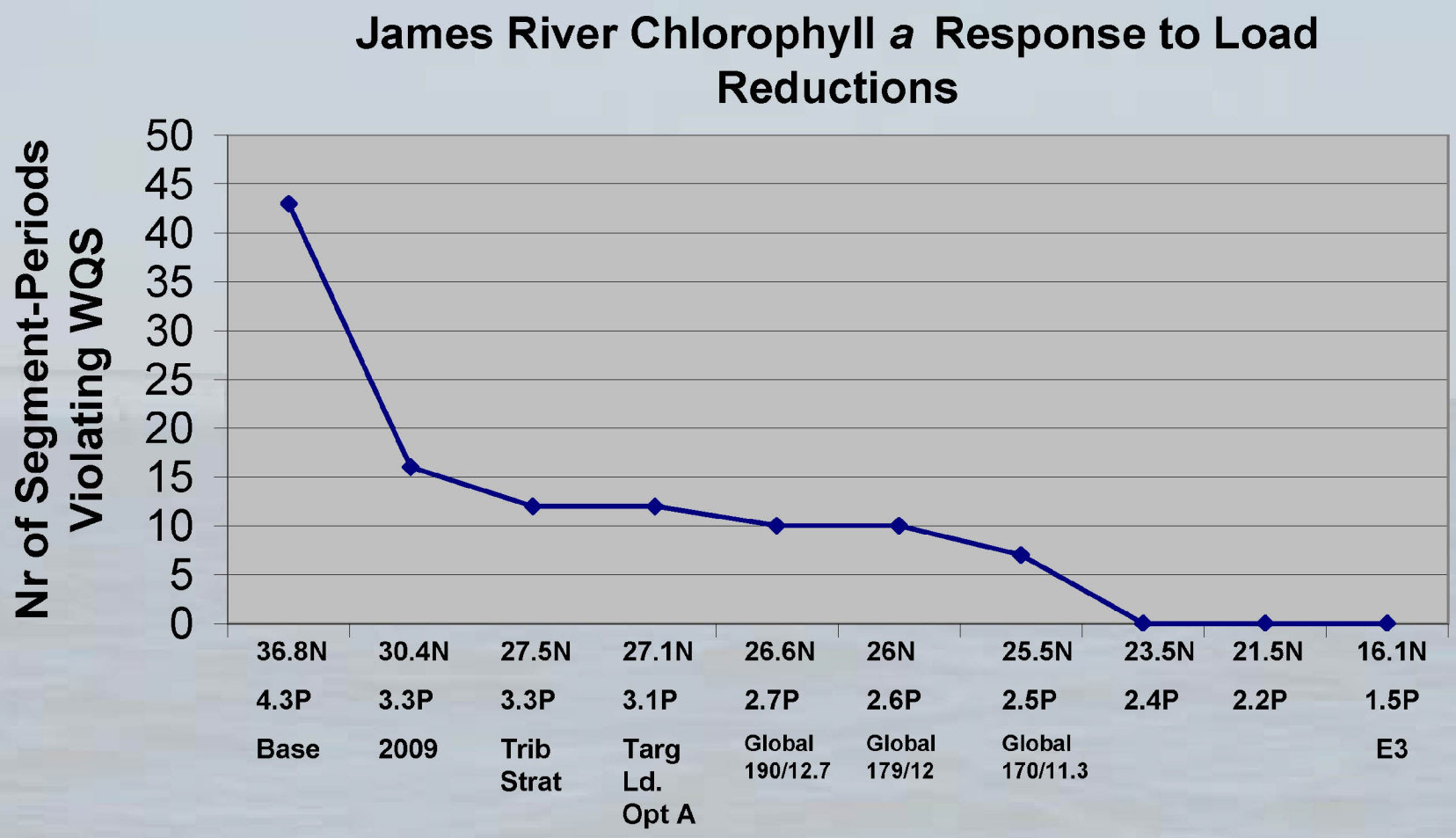
Chester River -MD
James River-VA



Lower Chester River Deep Channel Load and Response



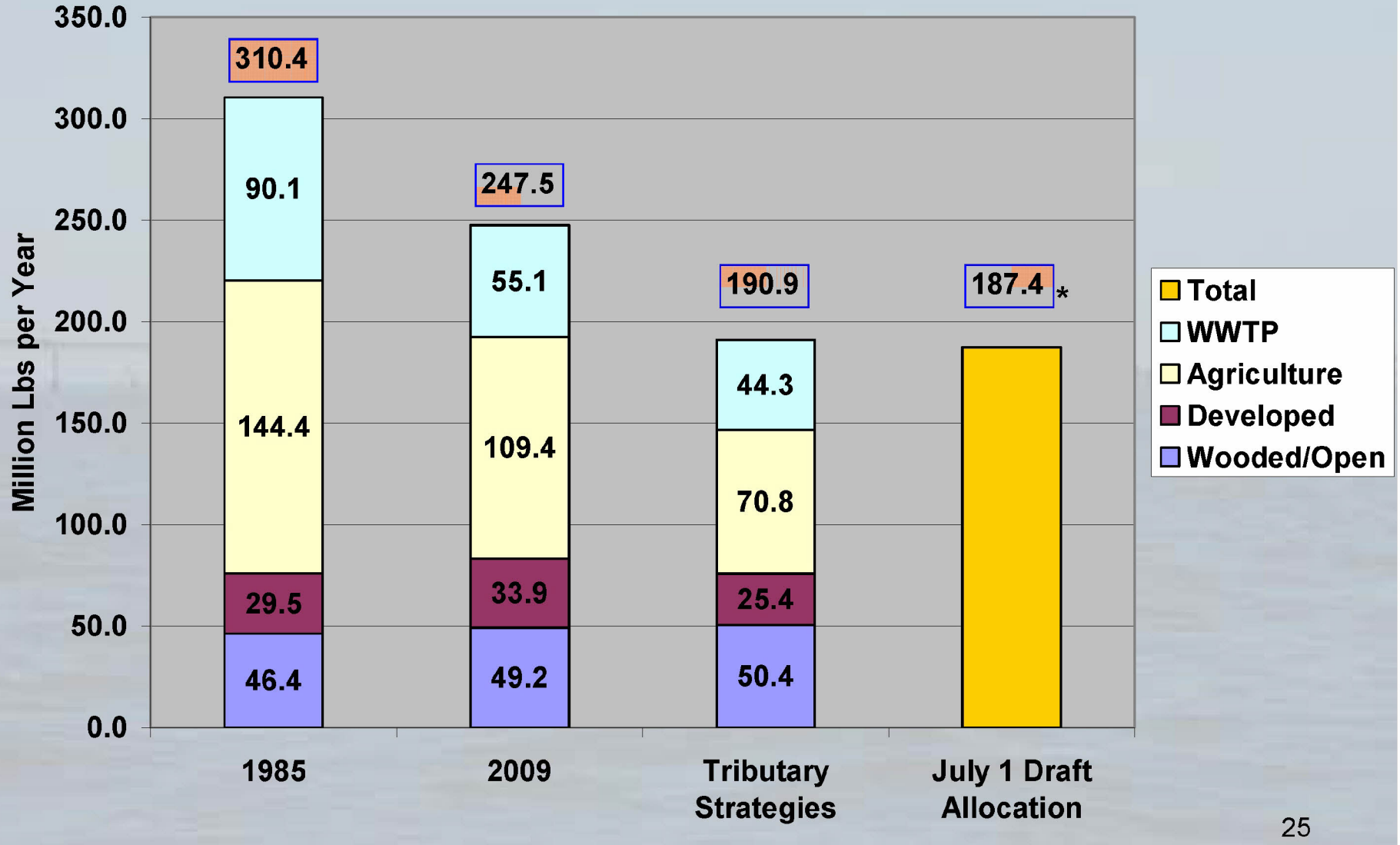
	1985 Scenario 342TN, 24.1TP, 9790TSS '93-'95	"91 -'00 Base Scenario 309TN, 19.5TP, 8950TSS '93-'95	2009 Scenario 248TN, 16.6TP, 8110TSS '93-'95	Target Load Option A 200TN, 15TP, 6390TSS '93-'95	Tributary Stategy 191TN 14.4TP, 6462 TSS '93-'95	190 Loading Scenario 190TN 12.6TP, 6030TSS '93-'95	179 Loading Scenario 179TN 12.0TP, 5510TSS '93-'95	170 Loading Scenario 170TN 11.3TP, 5650TSS '93-'95	E3 2010 Scenario 141TN 8.5TP, 5060TSS '93-'95	1/3 Between E3 & Forest 113TN 7.1TP 4450TSS '93-'95	2/3 Between E3 & Forest 85TN 5.7TP 3840TSS '93-'95	All Forest Scenario '93-'95
CHSMH	38%	38%	27%	14%	14%	14%	14%	9%	4%	5%	5%	0%
TN Loads	342	309	248	200	191	190	179	170	141	113	85	28


James River Chlorophyll a Response to Load Reductions
Nr of Segment-Periods Violating WQS
50
45
40
35
30
25
20
15
10
5
0
36.8N
4.3P
Base
30.4N
3.3P
2009
27.5N
3.3P
Trib Strat
27.1N
3.1P
Targ Ld. Opt A
26.6N
2.7P
Global 190/12.7
26N
2.6P
Global 179/12
25.5N
2.5P
Global 170/11.3
23.5N
2.4P
21.5N
2.2P
16.1N
1.5P
E3
James River Basin TN/TP Load

NY and WV Allocations

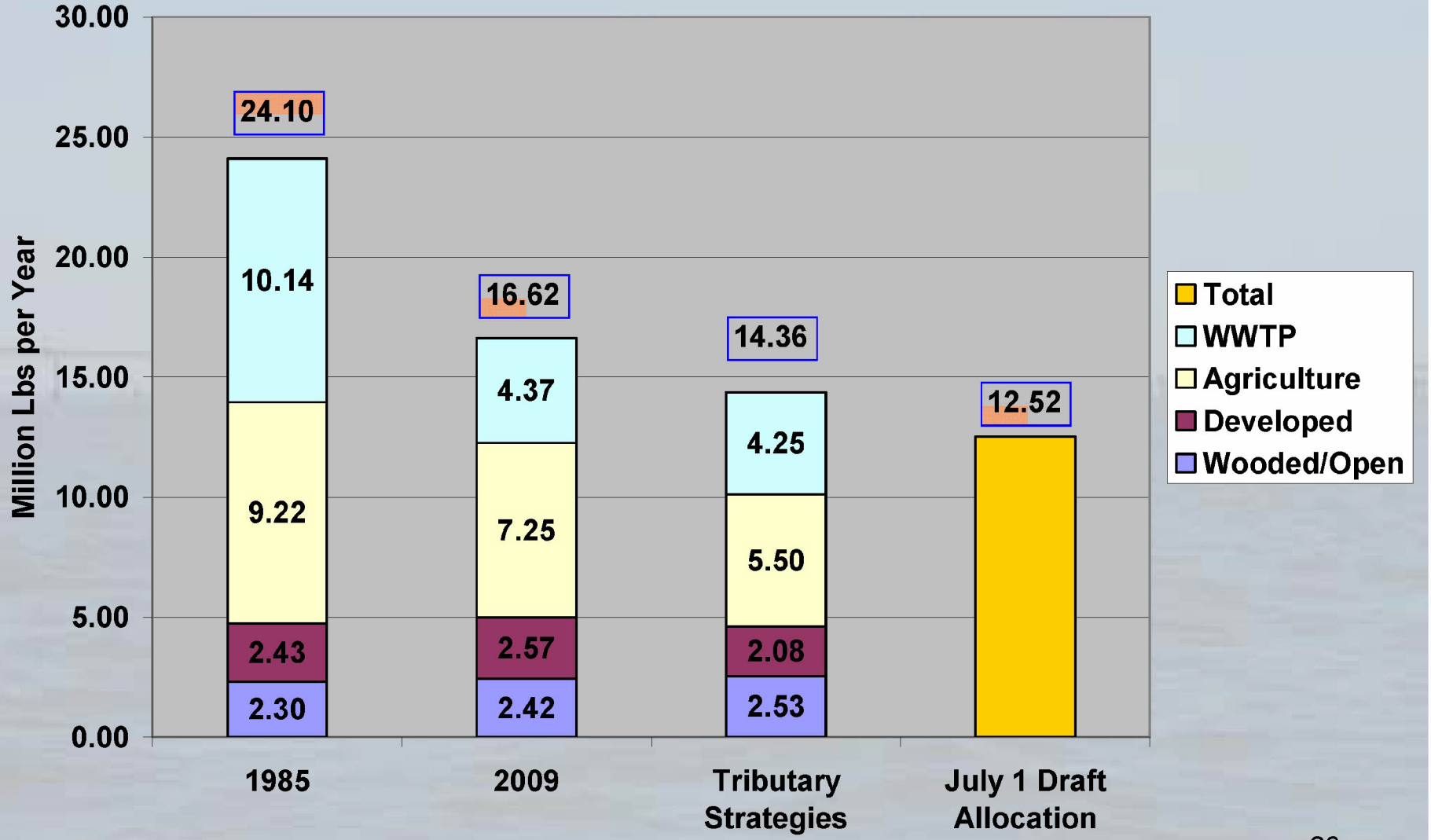
- Both are headwater states, hundreds of river miles from the tidal waters
- Small load contributions to tidal waters (2% TN, 5% TP)
- Little to negative population growth in NY
- Expressed strong concerns about equity in the allocations
- Working from the 190/12.7 based allocations, EPA increased:
  - New York's nitrogen allocation load by 0.75 million pounds/year[1]
  - West Virginia's phosphorus allocation load by 0.2 million pounds/year[1]

1. The 191 TN, 13 TP scenario confirmed attainment; enabled a 1 million lbs TN and 0.3 million lbs TP reserve.

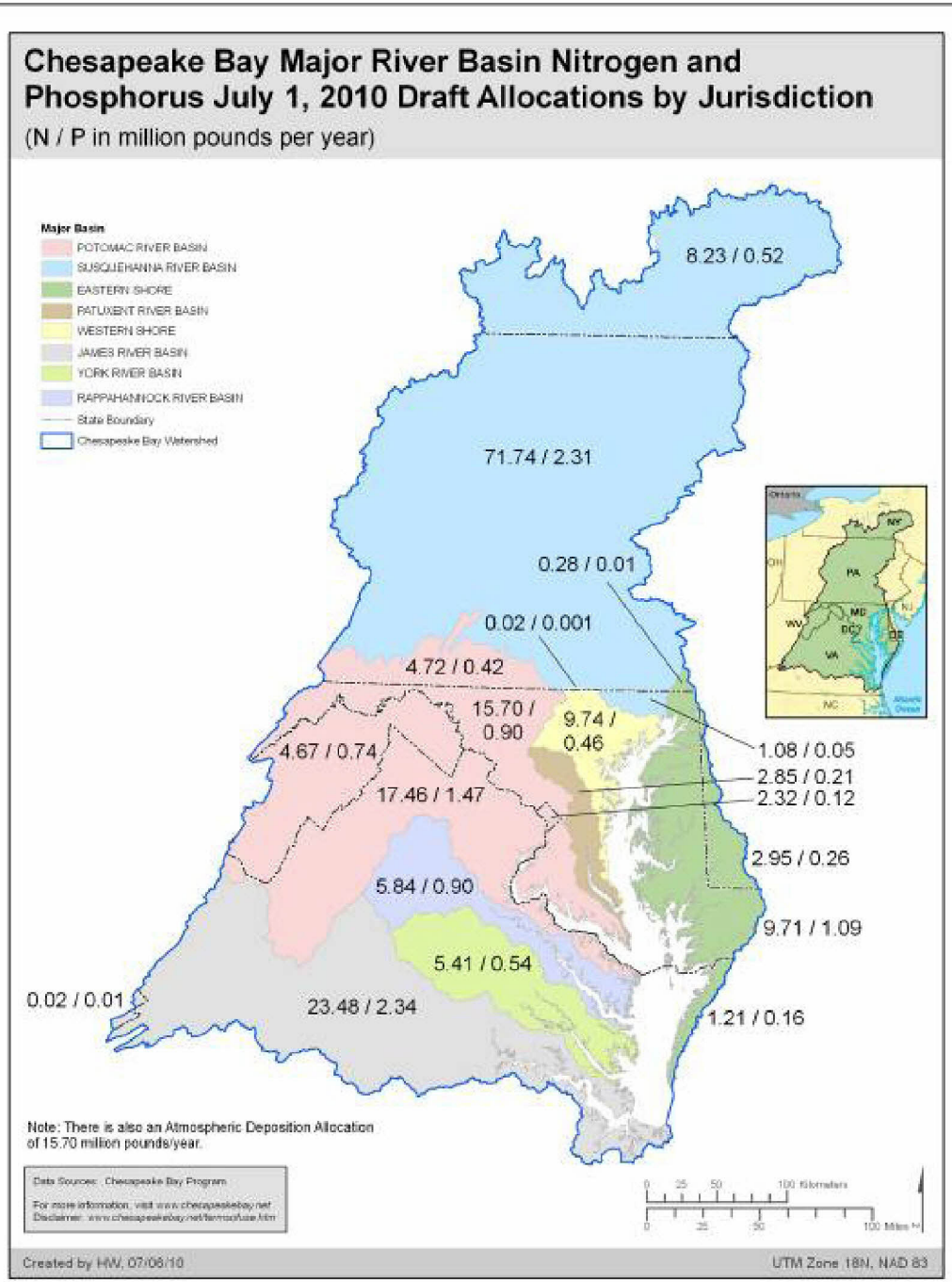


* Note: This is land based allocated load. Air allocation is an additional 15.7 mpy N

Phosphorus Loads by Sector and Scenario - CBP Watershed Model p5.3



State/basin allocations (N/P (MPY))



Temporary Reserve

- Prepare for potential allocation changes
- Set at 5% of allocated load
- Not used in TMDL loads
- States to identify ‘contingency actions’ to achieve the TR load reductions

The July 1 letter can be found at…

- http://www.epa.gov/chesapeakebaytmdl/
  - Go to 'Fact Sheets and Key Documents'

Scheduled Actions

Recent Correspondence*

- **June 11, 2010 Letter to States, DC**
  - Outlined the three-phase process to ensure the Bay TMDL is completed by December 2010 and all actions necessary for full restoration are implemented on schedule

- **July 1, 2010 Letter to States, DC**
  - Distributed the jurisdiction and major river basin nitrogen and phosphorus draft allocations along with the temporary reserves for each jurisdiction

* Copies of both letters accessible at www.epa.gov/chesapeakebaytmdl

What's Next on the Schedule

- **Draft Sediment Allocations**
  - August 15: EPA delivery of sediment allocations by jurisdiction and major river basin to the states, District
- **Draft Watershed Implementation Plans**
  - September 1: Jurisdictions' draft Phase I Watershed Implementation Plans due to EPA

What's Next on the Schedule

- **Public Comment Period**
  - Sept. 24 - Nov 8: Start of the 45 day public comment period
  - Draft Bay TMDL and supporting documentation available for public review and comment

- **Public meetings**
  - Sept 29.- Nov.4: 18 public meetings are being scheduled across the watershed in each jurisdiction
  - Public meetings—DC (1), VA (5), MD (3), DE (1), PA (4), NY (2), WV (2)—w/a webinar in each juris.

What's Next on the Schedule

- **Stakeholder Meetings**
  - Sept 29.- Nov.4: Scheduling meetings with full array of stakeholders
  - Including but not limited to: local elected officials,, agricultural community, municipality facility owners, environmental advocacy groups, homebuilders, local watershed organizations, local/regional media, others
  - Meetings to be scheduled before/after the public meetings scheduled in all seven jurisdictions

What's Next on the Schedule

- **Final Watershed Implementation Plans**
  - November 29: Jurisdictions' final Phase I Watershed Implementation Plans due to EPA
- **Final Bay TMDL**
  - By December 31: EPA publication of the final Chesapeake Bay TMDL
  - Noticed in the federal register and posted on-line

WIP activities

- States are working hard on WIPs
  - -engaging the public
- EPA is providing contractual support
- EPA attends meetings to answer questions
- Draft WIPS due 9/1
- WIP loads will be incorporated into TMDL

Developing Delaware's Watershed Implementation Plan for the Chesapeake Bay TMDL

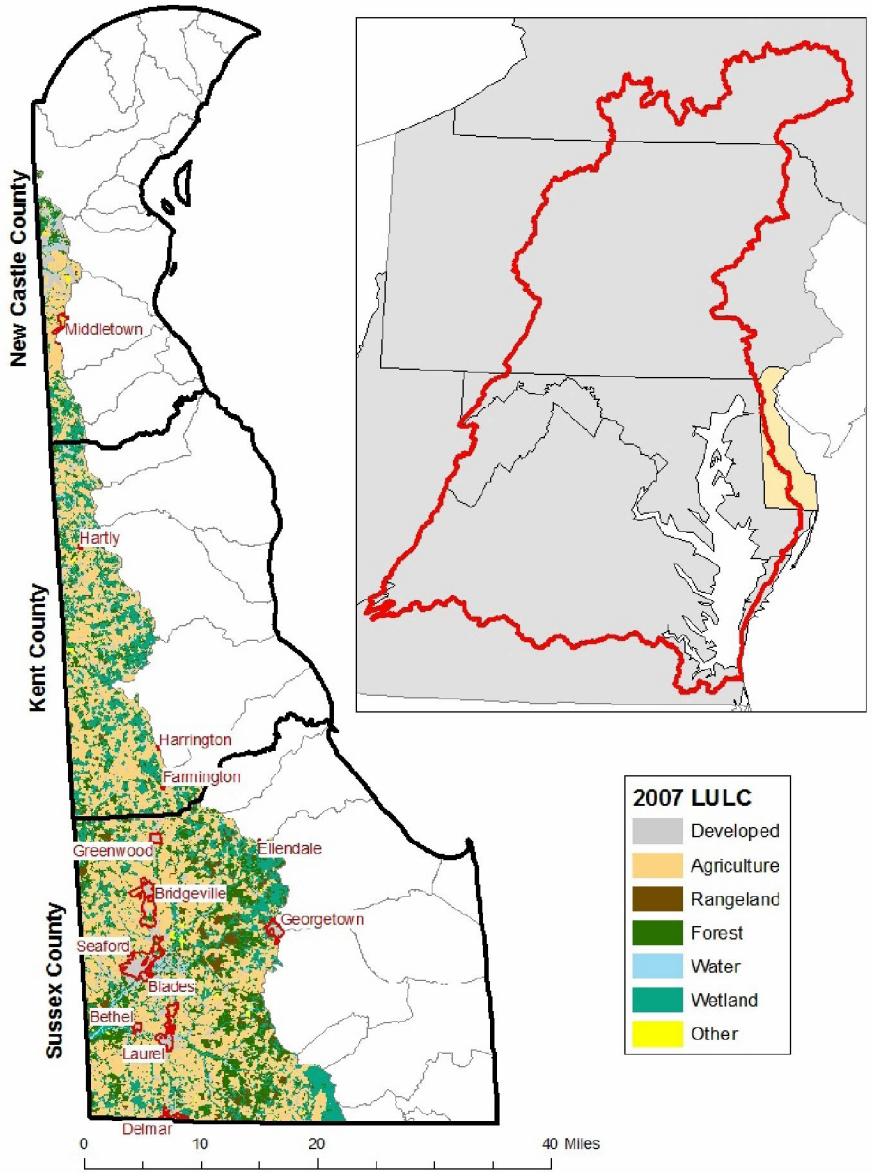
Jennifer Volk, DE DNREC

EPA Webinar

July 8, 2010

The Chesapeake Bay Watershed in Delaware

- Within all 3 counties
- Very rural character:
  - Developed 10%
  - Agriculture 48%
  - Rangeland 3%
  - Forest 16%
  - Water 1%
  - Wetland 21%
  - Other 1%
- Small, but growing, towns

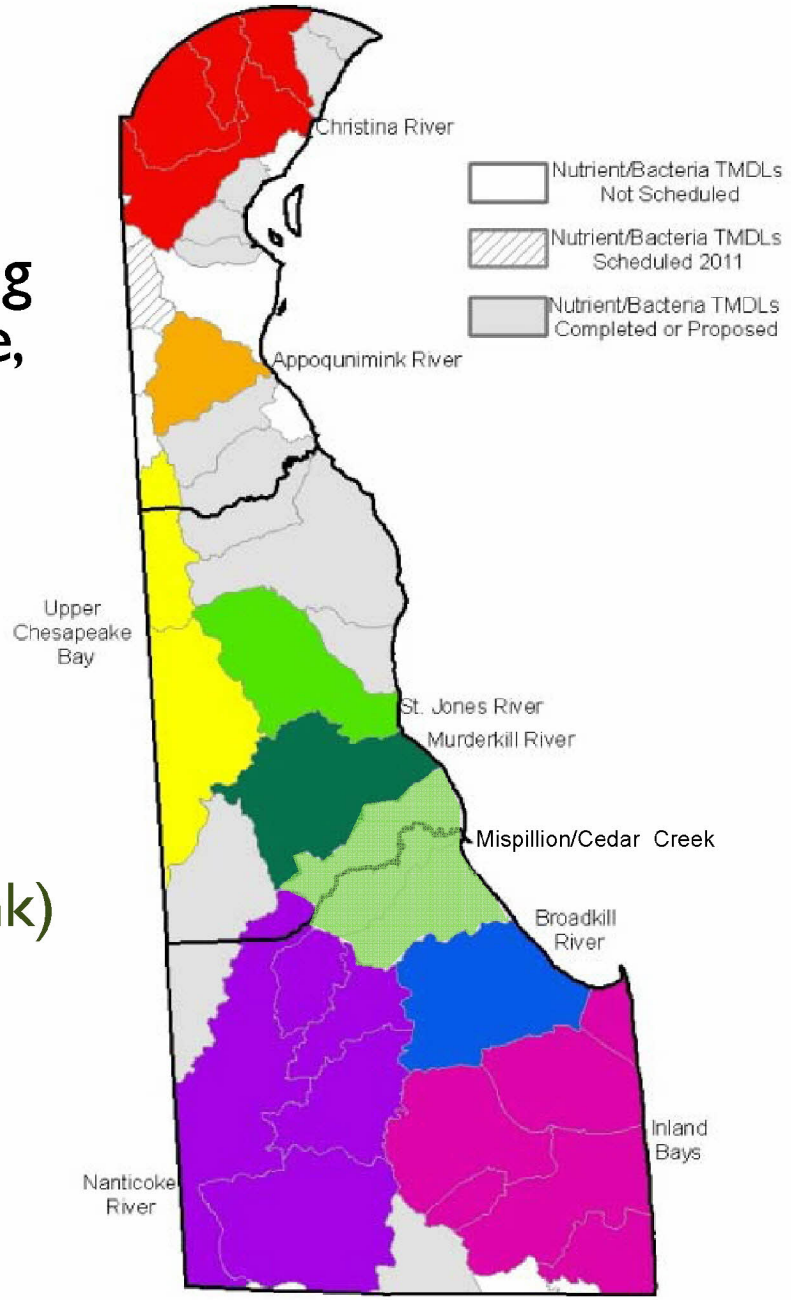


Delaware TMDLs

- 1998 - Nitrogen and Phosphorus TMDLs for the Nanticoke Watershed
  - Limits on point sources (Towns of Bridgeville, Laurel, and Seaford, and the industry Invista)
  - Nonpoint reductions of 30% N and 50% P
- 2006 - Nitrogen and Phosphorus TMDLs for Chester, Choptank, Marshyhope, & Pocomoke Watersheds
  - Nonpoint reductions of 0% to 55% N and P
  - 2006 - Bacteria TMDLs across the Chesapeake Drainage

Tributary Action Teams

- A group of citizens with varying interests, concerns, knowledge, and beliefs
- Meet with the purpose of recommending a Pollution Control Strategy to the Department
  - Began in 1998 in Nanticoke
  - Began in 2007 in Upper Chesapeake (Chester/Choptank)
- Combination of voluntary and required actions
- Set of actions designed to achieve the TMDL



Chesapeake Bay TMDL

- DE TMDLs achieve water quality standards at the state line;
- EPA TMDL covers the entire 6-state and DC watershed and needs to achieve standards in the deep channel of the bay where there is low to no dissolved oxygen every summer
- Which ever TMDL is more strict will supersede
  - EPA TMDL required reductions for nitrogen and phosphorus in most areas will exceed DE TMDLs
  - Additionally, DE does not have State TMDLs for sediment (don't have sediment standards)

July 1, 2010 Bay-wide Target Loads

	Nitrogen (million pounds)	Phosphorus (million pounds)
2025 final goal	**187**	**12.5**

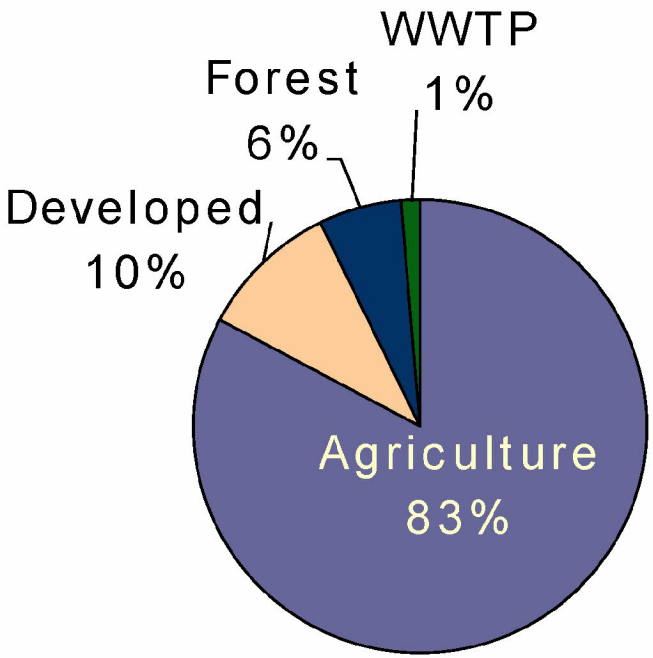
July 1, 2010 Delaware Target Loads

	Nitrogen (million pounds)	Phosphorus (million pounds)
2025 final goal	**2.95**	**0.26**

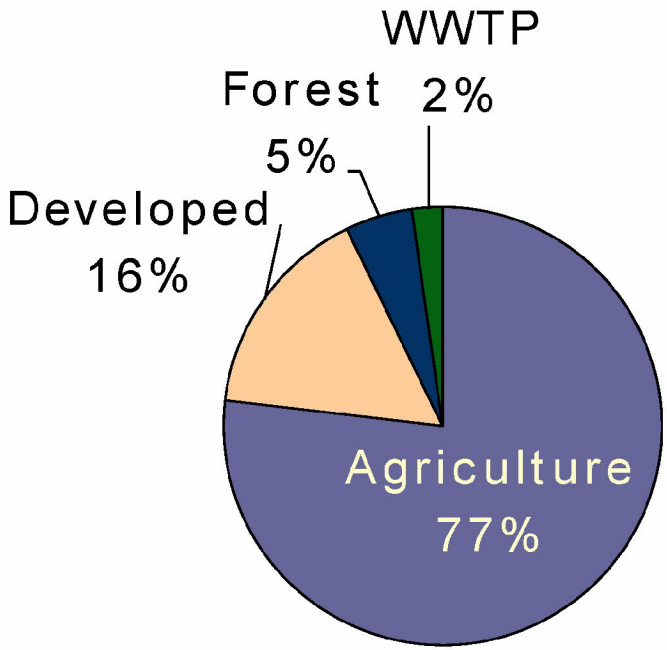
Calculated with Phase 5.3 of the model.

Nutrient Sources of DE

Sources of Nitrogen from Delaware



Sources of Phosphorus from Delaware



N and P values from 2008 Scenario of Phase 5.2 Watershed Model

Watershed Implementation Plans

- How we will achieve and maintain allocations
- Identify a schedule for accomplishing reductions with specific dates for implementing key actions (new regulations, improved compliance, additional resources for cost-sharing, etc.)
  - As soon as possible
  - 2-Year Milestones
  - No later than 2025
- Signatory states expected to base all control actions identified in their Plans on regulations, permits, or enforceable agreements
  - Headwater states not expected to do this, but strongly encouraged to do so

WIP Development Process

- Phase 1: Jurisdictions divide target loads among point and nonpoint sources; provide description of authorities, actions, and control measures that will be implemented
- EPA will consider this when establishing TMDL wasteload allocations (WLA) for point sources and load allocations (LA) for nonpoint sources
- ~~Preliminary Phase 1 WIP due June 1, 2010~~
- Draft Phase 1 WIP due ~~August~~ September 1, 2010
- Final Phase 1 WIP due November 1 ~~29~~, 2010

Delaware's Chesapeake Interagency Workgroup

- First met on January 8, 2010
- Representatives from
  - Each Division of the Department of Natural Resource and Environmental Control
  - Department of Agriculture
  - Department of Transportation
  - Office of State Planning Coordination
  - County Conservation Districts
  - US Department of Agriculture
  - Other stakeholders

Chesapeake Interagency Workgroup

- Eight Subcommittees
  1. Agriculture
  2. Stormwater
  3. Wastewater
  4. Land Use & Comprehensive Plans
  5. Public Lands
  6. Restoration
  7. Funding
  8. Information Technology
  9. (Communication)

Chesapeake Interagency Workgroup

- Recommend and review sub-allocation methodologies and resulting TMDL loads for point and nonpoint sources within the basins
  - Consider future growth
- Assess current capacity and how to fill gaps
- Assess current data tracking and reporting systems and assist with plans for improvement
- Determine maximum implementation goals and methods to fill program and funding gaps
  - Revisit and expand upon TAT recommendations

Chesapeake Interagency Workgroup

- Working with Tetra Tech to:
  - Answer questions regarding the model and data
  - Collect, assess, and map data
  - Technical reviews
  - Other assignments as needed
- Currently providing text and data for our Phase I WIP
  - Submitting sections to EPA State and Subject Matter leads for their review and feedback

Next Steps

- Provide EPA with "What if?" scenarios
- Meet with stakeholder groups this summer
- Planning public meetings
- EPA TMDL public meeting in the fall

  Monday, October 11, 2010 – TENTATIVE

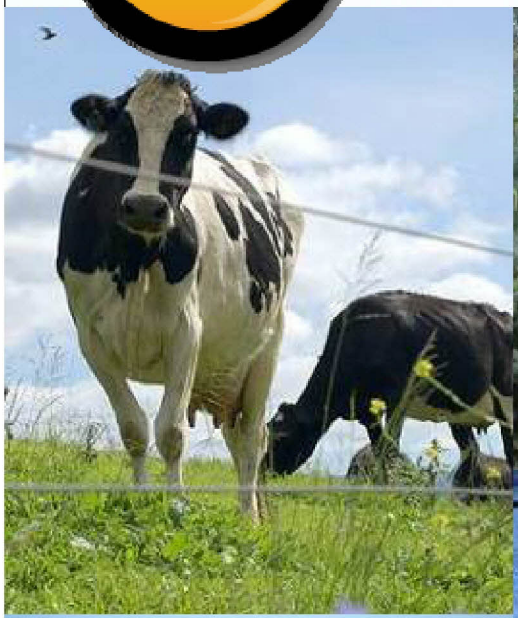
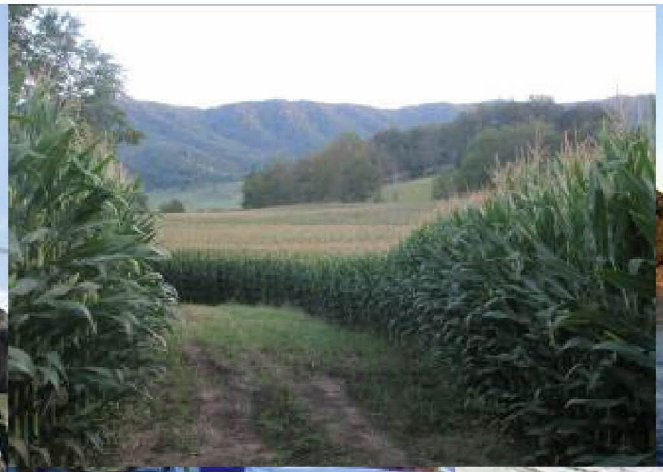
  Delaware Tech - Owens Campus

  Georgetown, DE

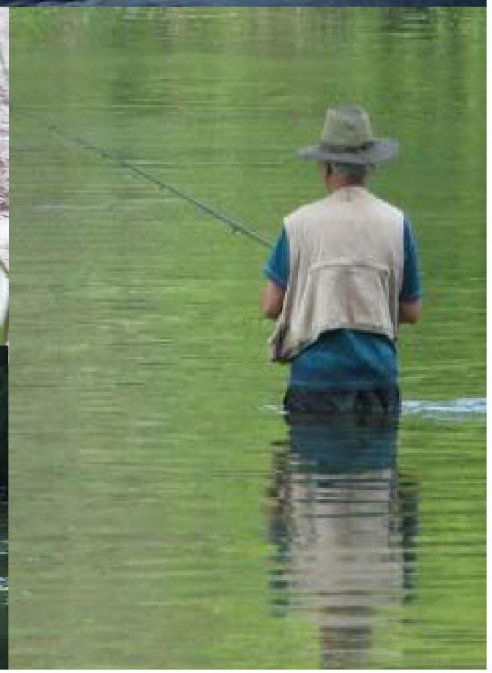
Questions?

Contact Information:
Jennifer Volk, DNREC
Watershed Assessment
Section
Jennifer.Volk@state.de.us
302-739-9939

Questions & Comments






Thank you for your participation!

That concludes today's webinar.